CONTENTS

PRESIDENTIAL ADDRESS — PAGE

COATES, JOHN, Elliptic curves with complex multiplication and Iwasawa theory 321

SURVEY ARTICLES

HERRERO, DOMINGO A., Triangular operators 513
PARRY, WILLIAM, Notes on coding problems for finite state processes 1

NOTES AND PAPERS

ALPERN, STEVE and PRASAD, V. S., Typical recurrence for lifts of mean rotation zero annulus homeomorphisms 477
APPLEBAUM, DAVID, Brownian motion on SO(3) factorises in Fock space 493
APTER, ARTHUR W., A note on strong compactness and supercompactness 113
BALLICO, EDOARDO, On the tangentially degenerate projective varieties 128
BASTON, R. J., Conformally invariant operators: singular cases 153
BECK, JÓZSEF, Flat polynomials on the unit circle—note on a problem of Littlewood 269
BEHRENDT, GERHARD, Equivalence systems on sets of binary sequences 219
BERKOVITS, JUHA, Topological degree and multiplication theorem for a class of nonlinear mappings 596
BERKOVITS, JUHA and MUSTONEN, VESA, An application of the topological degree theory for semilinear equations with strongly monotone nonlinearities 470
BERRY, D. and MESTEL, B. D., Wandering intervals for Lorenz maps with bounded nonlinearity 183
BETKER, TH., Löwner chains and Hardy spaces 367
BETKER, TH., Univalence criteria and Löwner chains 563
BONK, MARIO, Distortion estimates for Bloch functions 454
CHEN, SHAOZHU, Asymptotic integration of the principal solution of a second-order differential equation 457
CONDER, MARSTON, The symmetric genus of the Mathieu groups 445
DOWSON, H. R., Solution to a problem of Lior Tzafriri 285
DRÄXLER, PETER, Auslander–Reiten quivers of algebras whose indecomposable modules are bricks 141
EELLS, J. and FERREIRA, M. J., On representing homotopy classes by harmonic maps 160
EVANS, W. D. and RÁKOSNÍK, J., Anisotropic Sobolev spaces and a quasidistance function 59
EVESON, S. P., An integral equation arising from a problem in mathematical biology 293
FERREIRA, M. J., *see* Eells, J.
GARDINER, STEPHEN J., A short proof of Burdzy's theorem on the angular derivative 575
GARLING, D. J. H., Hardy martingales and the unconditional convergence of martingales 190
GHAHRAMANI, F., Isomorphisms between semisimple weighted measure alegbras 465
GILLET, H., MAZUR, B. and SOULÉ, C., A note on a classical theorem of Blichfeldt 131
GOH, WILLIAM M. Y. and SCHMUTZ, ERIC, The expected order of a random permutation 34
GREENLEES, J. P. C., Equivariant functional duals and completions at ideals of the Burnside ring 163
GROEMER, H. and SCHNEIDER, R., Stability estimates for some geometric inequalities 67
HART, R., Glued algebras and differential operators 351
HEWITT, P. R., The paucity of 'large' solvable groups 224
IZUCHI, KEIJI, Orbits in the maximal ideal space of H^∞ 587
JIANG, RENFANG, Free product with amalgamation and free actions on R-trees 53
JOENTGEN, ARNO and VOLKMANN, LUTZ, Factors of locally almost regular graphs 121
JOHNSON, B. E., Weak amenability of group algebras 281
KAKIMIZU, OSAMU, Doubled knots with infinitely many incompressible spanning surfaces 300
KOMJATH, PETER, Tetrahedron free decomposition of R^3 116
KONDERAK, JERZY J., On natural first order Lagrangians 169
KÖRNER, T. W., Differentiable functions on the rationals 557
LEFEBVRE, DANIÈLE and POURPRIX, MARIE-THÉRÈSE, Realisations of non v-sufficient jets with value in $\mathbf{R}^p$, $p > 1$ 175
LEUNG, C. W. and PLYMEN, R. J., L^2-Fourier transform for reductive p-adic groups 146
LEUNG, DENNY H., Embedding $\ell^{p,\infty}$ into $L^{p,\infty}$ [0, 1] complementably 583
LEUNG, PUI-FAI, Minimal submanifolds in a sphere II 387
LEWIS, RICHARD, On the rank of partitions modulo 9 417
LUSZTIG, G. and SMELT, J. M., Fixed point varieties on the space of lattices 213
MCCONNELL, J. C., On the primitive spectrum of a solvable enveloping algebra 363
MANN, AVINOAM, Wreath products in modular group rings 443
MARLEY, THOMAS, Unmixed local rings of type two are Cohen–Macaulay 43

MAZUR, B., *see* Gillet, H.
MESTEL, B. D., *see* Berry, D.
MONTALDI, JAMES, On generic composites of maps 81
MONTEJANO, LUIS, Convex bodies with homothetic sections 381
MORTON, H. R., Trefoil knots without tritangent planes 78
MROZIK, PETER, LC^n compacta are n-improved 391
MUSTONEN, VESA, *see* Berkovits, Juha
NÄÄTÄNEN, M. and PENNER, R. C., The convex hull construction for compact surfaces and the Dirichlet polygon 568
NATARAJAN, P. N., A characterization of the matrix class (ℓ_∞, C_0) 267
NICOLAU, ARTUR, Blaschke products with prescribed radial limits 249
O'CARROLL, L., A note on Artin–Rees numbers 209
O'CARROLL, L., Addendum to: 'A note on Artin–Rees numbers' 555
PARUSIŃSKI, A., Multiplicity of the dual variety 429
PENNER, R. C., *see* Näätänen, M.
PERKINS, PATRICK, Isomorphisms of rings of differential operators on curves 133
PIN, JEAN-ERIC and REUTENAUER, CHRISTOPHE, A conjecture on the Hall topology for the free group 356
PLYMEN, R. J., *see* Leung, C. W.
POURPRIX, MARIE-THÉRÈSE, *see* Lefebvre, Danièle
PRASAD, V. S., *see* Alpern, Steve
QUAS, ANTHONY N., On representations of Markov chains by random smooth maps 487
RÁKOSNÍK, J., *see* Evans, W. D.
RANSFORD, T. J. and WHITE, M. C., Holomorphic self-maps of the spectral unit ball 256
REUTENAUER, CHRISTOPHE, *see* Pin, Jean-Eric
ROSENMANN, AMNON and ROSSET, SHMUEL, Essential and inessential fractal ideals in the group ring of a free group 437
ROSSET, SHMUEL, *see* Rosenmann, Amnon
SAITO, MASAHICO, On closed orbits of Morse–Smale flows on 3-manifolds 482
SCHMINCKE, U. W., Proofs of Povzner–Wienholtz type theorems on self-adjointness of Schrödinger operators by means of positive eigensolutions 263
SCHMUTZ, ERIC, *see* Goh, William M. Y.
SCHNEIDER, R., *see* Groemer, H.
SHALEV, ANER, Large wreath products in modular group rings 46
SMELT, J. M., *see* Lusztig, G.
SOICHER, LEONARD H., A new uniqueness proof for the Held group 235
SOULÉ, C., *see* Gillet, H.
STEMBRIDGE, JOHN R., Immanants of totally positive matrices are nonnegative 422
TAKEDA, MASAYOSHI, On the conservativeness of the Brownian motion on a Riemannian manifold 86
TRUSS, J. K., Small sets which meet all the n-term arithmetic progressions in the interval $[1, n^2]$ 123
VAN DER VLUGT, MARCEL, A new upper bound for the dimension of trace codes 395
VOLKMANN, LUTZ, *see* Joentgen, Arno
WHITE, M. C., Characters on weighted amenable groups 375
WHITE, M. C., *see* Ransford, T. K.
WILKINS, D. R., On the length of loops generating holonomy groups 372
WILLEMS, W., On irreducible faithful modules and their cohomology 75
WILSON, J. MICHAEL, A counterexample in two-parameter harmonic analysis 580
WILSON, J. S., Two-generator conditions for residually finite groups 239
YOOD, BERTRAM, On commutativity of unital Banach algebras 278

BOOK REVIEWS

AARTS, E. and KORST, J., Simulated annealing and Boltzmann machines [reviewed by Colin McDiarmid] 622
ACZEL, P., Non-well-founded sets [A. R. D. Mathias] 197
ADÁMEK, J., HERRLICH, H. and STRECKER, G. E., Abstract and concrete categories [M. V. Lawson] 500
ANDRÉ, Y., G-functions and geometry [G. R. Everest] 401
APPEL, K. and HAKEN, W., Every planar map is four colorable [Robin J. Wilson] 89
ARNOLD, V. I., Singularities of caustics and wave fronts [P. J. Giblin] 619
BENEDETTI, R. and RISLER, J.-J., Real algebraic and semi-algebraic sets [C. G. Gibson] 309
BENSOUSSAN, ALAIN, Perturbation methods in optimal control [R. B. Vinter] 616
BROUWER, A. E., COHEN, A. M. and NEUMAIER, A., Distance-regular graphs [N. L. Biggs] 305
CARNIELLI, W. A., *see* Epstein, R. L.
COHEN, A. M., *see* Brouwer, A. E.

COX, DAVID A., Primes of the form x^2+ny^2 [R. W. K. Odoni] 610
DEUSCHEL, JEAN-DOMINIQUE and STROOCK, DANIEL, Large deviations [E. Bolthausen] 621
DINEEN, S., The Schwarz Lemma [J. M. Anderson] 206
EMERY, M., Stochastic calculus in manifolds [W. S. Kendall] 410
EPSTEIN, R. L. and CARNIELLI, W. A., Computability: computable functions, logic and the foundations of mathematics [R. O. Gandy] 303
ERDÖS, PAUL (*editor*), Collected papers of Paul Turán [R. C. Vaughan] 193
FALCONER, K. J., Fractal geometry: mathematical foundations and applications [C. Tricot] 207
FENCHEL, W., Elementary geometry in hyperbolic space [E. Rees] 317
FINE, B., Algebraic theory of the Bianchi groups [J. Howie] 199
FOMENKO, A. T., Symplectic geometry [Nigel Hitchin] 408
FREITAG, E. and KIEHL, R., Etale cohomology and the Weil conjecture [G. Horrocks] 200
FREITAG, EBERHARD, Hilbert modular forms [S. J. Patterson] 607
GASPER, G. and RAHMAN, M., Basic hypergeometric series [T. H. Koornwinder] 312
VAN DER GEER, G., *see* van Lint, J. H.
GELLER, D., Analytic pseudodifferential operators for the Heisenberg group and local solvability [B. Gaveau] 502
GOODEARL, K. R. and WARFIELD, R. B., An introduction to noncommutative Noetherian rings [C. J. Hajarnavis] 91
GRAHAM, S. W. and KOLESNIK, G., van der Corput's method of exponential sums [D. R. Heath-Brown] 609
GRIPENBERG, G., LONDEN, G.-O. and STAFFANS, O., Volterra integral and functional equations [G. Samuel Jordan] 614
GUNNING, R. C., Introduction to holomorphic functions of several variables. Vol. I: Function theory; Vol. II: Local theory; Vol. III: Homological theory [N. Sibony] 503
GUSFIELD, D. and IRVING, R. W., The stable marriage problem: structure and algorithms [G. Brightwell] 402
HAKEN, W., *see* Appel, K.
HASEN, V. L., Braids and coverings: selected topics [Roger Fenn] 104
HERRLICH, H., *see* Adámek, J.
HERVÉ, M., Analyticity in infinite dimensional spaces [S. Dineen] 314
HILGERT, J., HOFMANN, K. H. and LAWSON, J. D., Lie groups, convex cones and semigroups [D. A. R. Wallace] 203
HOFMANN, K. H., *see* Hilgert, J.
HUMPHREYS, J. E., Reflection groups and Coxeter groups [R. W. Carter] 505
IRVING, R. W., *see* Gusfield, D.
JAMES, I. M., Introduction to uniform spaces [P. J. Collins] 617
KIEHL, R., *see* Freitag, E.
KLEIDMAN, P. and LIEBECK, M., The subgroup structure of the finite classical groups [R. W. Carter] 308
KOLESNIK, G., *see* Graham, S. W.
KORST, J., *see* Aarts, E.
LAWSON, J. D., *see* Hilgert, J.
DE LEÓN, M. and RODRIGUES, P. R., Methods of differential geometry in analytical mechanics [N. M. J. Woodhouse] 105
LIEBECK, M., *see* Kleidman, P.
VAN LINT, J. H. and VAN DER GEER, G., Introduction to coding theory and algebraic geometry [J. W. P. Hirschfeld] 498
LONDEN, G.-O., *see* Gripenberg, G.
NAG, S., The complex analytic theory of Teichmüller spaces [W. J. Harvey] 405
NAGAO, H. and TSUSHIMA, Y., Representations of finite groups [J. A. Green] 90
NAKAHARA, M., Geometry, topology and physics [David B. Fairlie] 319
NARKIEWICZ, WŁADYSŁAW, Elementary and analytic theory of algebraic numbers [R. W. K. Odoni] 610
NEUMAIER, A., *see* Brouwer, A. E.
ONISHCHIK, A. L. and VINBERG, E. B., Lie groups and algebraic groups [Andrew N. Pressley] 612
ORLIK, PETER, Introduction to arrangements [Günter M. Ziegler] 101
PINKUS, A., On L^1-approximation [Dietrich Braess] 97
PISIER, GILLES, The volume of convex bodies and Banach space geometry [Béla Bollobás] 506
POHST, M. and ZASSENHAUS, H., Algorithmic algebraic number theory [J. E. Cremona] 94
PORTER, J. R. and WOODS, R. G., Extensions and absolutes of Hausdorff spaces [P. J. Collins] 98
POUR-EL, M. B. and RICHARDS, J. I., Computability in analysis and physics [R. O. Gandy] 303
RAHMAN, M., *see* Gasper, G.
RICHARDS, J. I., *see* Pour-El, M. B.
RISLER, J.-J., *see* Benedetti, R.
RISSANEN, J., Stochastic complexity in statistical inquiry [A. P. Dawid] 106
RIVLIN, T. J., Chebyshev polynomials [Richard Askey] 311

RODRIGUES, P. R., *see* de León, M.
ROTMAN, J., Galois theory [J. C. McConnell] 497
ROWEN, L., Ring theory, Volumes I and II [Aidan Schofield] 93
RUDAKOV, A. N. *et al.*, Helices and vector bundles (Seminaire Rudakov) [S. Donaldson] 612
SALAMON, S., Riemannian geometry and holonomy groups [John Rawnsley] 407
SCHATTSCHNEIDER, DORIS, Visions of symmetry—notebooks, periodic drawings and related work of M. C. Escher [R. L. E. Schwarzenberger] 608
SHARP, R. Y., Steps in commutative algebra [L. O'Carroll] 404
SHIDLOVSKII, A. B., Transcendental number theory [F. Beukers] 99
SNAITH, V. P., Topological methods in Galois representation theory [M. J. Taylor] 307
STAFFANS, O., *see* Gripenberg, G.
STRECKER, G. E., *see* Adámek, J.
STROOCK, DANIEL, *see* Deuschel, Jean-Dominique
TOTH, G., Harmonic maps and minimal immersions through representation theory [P. Baird] 509
TSUSHIMA, Y., *see* Nagao, H.
VARADARAJAN, V. S., An introduction to harmonic analysis on semi-simple Lie groups [T. Hirai] 204
VAUGHAN-LEE, M., The restricted Burnside problem [J. Wiegold] 201
VINBERG, E. B., *see* Onishchik, A. L.
WARD, R. S. and WELLS, R. O., JR, Twistor geometry and field theory [N. J. Hitchin] 315
WARFIELD, R. B., *see* Goodearl, K. R.
WELLS, R. O., JR, *see* Ward, R. S.
WOODS, R. G., *see* Porter, J. R.
ZASSENHAUS, H., *see* Pohst, M.
ZIEMER, W. P., Weakly differentiable functions [D. Preiss] 314

RECORDS OF PROCEEDINGS AT MEETINGS

GENERAL AND ORDINARY MEETING, 15 June 1990 109
ORDINARY MEETING, 24 August 1990 414
MEETING ON INTEGRABLE NONLINEAR SYSTEMS, 19 October 1990 414
GENERAL AND ORDINARY MEETING, 19 October 1990 414
ANNUAL GENERAL MEETING, 16 November 1990 415
ORDINARY MEETING, 18 January 1991 512
ORDINARY MEETING, 15 February 1991 512
ORDINARY MEETING, 15 March 1991 624